

METHOD AND SYSTEM FOR IMPLEMENTING A REDUCED COMPLEXITY  
DUAL RATE ECHO CANCELLER

**ABSTRACT**

A dual rate echo canceller for simultaneous support of multiple annexes is provided. The present invention provides an efficient Reduced Complexity Dual Rate Echo Canceller (RCDR-EC) architecture for ADSL CPE for simultaneous support of a plurality of annexes, such as Annex A and Annex B of G.992.1. In addition, low complexity LMS update rules are proposed for adaptive training RCDR-EC. In addition, RCDR-EC of the present invention may operate at the transmit rate, the lower of the two rates, thereby requiring less computation per data sample. The present invention provides an echo canceller structure for full rate ADSL CPE. Another aspect of the present invention is directed to designing the echo canceller flexible enough to simultaneously support, at least, Annex A and Annex B of G.992.1. Another aspect of the present invention is further directed to obtaining an efficient rate matching echo canceller implementation for full rate ADSL CPE as well as other applications.